

REMARKS

Claims 1-11 are all the claims pending in the application. Claim 1 and the specification have been amended to replace the comma in the formulas with a period. The amendments are directed to form only.

Entry of the above amendments is respectfully requested.

I. Response to Objections to Specification and Claims

Claim 1 and the specification have been amended to replace the comma in the formulas with a period. Accordingly, withdrawal of the objections is respectfully requested.

II. Response to Rejection of Claim 1 under 35 U.S.C. § 112, second paragraph

Claim 1 is rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite because it is unclear what "min" and "max" indicate and why the equations each have two values.

Applicants respectfully traverse.

It is respectfully submitted that "Min" and "Max" are very well known operators in mathematical language. The meaning of $X = \text{Min}(a;b)$ is that X is equal to the lowest value taken from a and b, and $X = \text{Max}(a;b)$ means that X is equal to the higher value. Accordingly, it is respectfully submitted that one of ordinary skill in the art would understand the meaning and scope of the claims and that the claims are definite.

Withdrawal of the rejection is respectfully requested.

III. Rejection of Claims 1-5 under 35 U.S.C. § 103(a)

Claims 1-5 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over JP 6-17188, JP 3-31443, JP 2001-220648, or JP 2001-181781.

Applicants respectfully traverse the rejection.

JP '188 does not describe a martensite and/or bainite with retained austenite in a vol% range that overlaps the claimed range of 3 to 20%. JP '188 describe a structure of ferrite, bainite or the like with island shape martensite, constituted of martensite and remaining austenite, the area ratio of island shape martensite being $\geq 5\%$.

In addition, in JP '188, only examples K, R and W contain boron, but examples K and W contain no titanium and no aluminum. As the N content is not defined in JP '188, it is impossible to determine whether the boron content in the steels of JP '188s are within the claimed range.

JP '443 describes a tough and hard non-heat treated steel for hot forging and is not related to welding properties. Additionally, JP '443 is silent regarding the amount of N.

JP '648 describes a steel suitable as an automotive steel sheet having high ductility and excellent stretch flanging. This steel has a structure composed of a main phase of polygonal ferrite and a second phase of bainite and retained austenite. Thus, the use of the steel of JP '648 and its structure are very different from those of the steel according to the present invention.

JP '781 describes a steel having a structure containing less than 2% which is less than the lower limit for the steel according to the present invention. In addition, the steel of JP '781 is usable for shear reinforcing bar, but not for structural pieces.

Furthermore, the N content of a steel is never 0% and depends on the process. As N reacts with boron and renders it inefficient, in order to maintain the efficiency of boron, it is necessary to protect it against N by adding Ti and Al in a sufficient quantity in order to react with nitrogen in place of boron. JP '188, JP '443, JP '648, and JP '781 are all silent regarding the content of N and of the foregoing.

For at least the above reasons, it is respectfully submitted that cited art does not render the present invention obvious and that claims 1-5 are patentable over the cited art.

Accordingly, withdrawal of the rejection is respectfully requested.

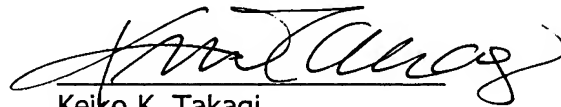
IV. Conclusion

For the foregoing reasons, reconsideration and allowance of the claims is respectfully requested.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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